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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/940,871 | 08/27/2001 | Leo R. Blume | ERT-012 | 5103 |
| 22888 | 7590 | 03/21/2006 | EXAMINER | |
| BEVER HOFFMAN & HARMS, LLP TRI-VALLEY OFFICE 1432 CONCANNON BLVD., BLDG. G LIVERMORE, CA 94550 | | | TRAN, TAM D | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2628 | |

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/940,871

Applicant(s)

BLUME, LEO R.

Examiner

Tam D. Tran

Art Unit

2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/27/01, 4/24/03
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-14, are rejected under 35 U.S.C. 102(e) as being anticipated by Hashimoto (USPN 6879338 B1).

2. In regard to claim 1, 12, Hashimoto teaches a camera system for environment capture comprising: a primary camera (element 440 having lens) having a first lens defining a first optical axis extending in a first direction; see Fig.7; a second camera (element 410 having lens) located on a first side of the primary camera and having a second lens defining a second optical axis extending in a second direction; see Fig.7; and a third camera (element 430 having lens) located on a second side of the primary camera and having at third lens defining a third optical axis extending in the second direction such that the third optical axis is parallel to the second optical axis (third optical axis and second optical axis parallel with the Y-axis; therefore third optical axis and second optical axis are parallel to each other). See Fig.7, col.4 lines 63-65, col.7 lines 42-57.

3. In regard to claim 2, Hashimoto teaches a camera system for environment capture further comprising means for emulating a first virtual camera by combining environment data captured

by the second camera with environment data captured by the third camera (camera systems for environment mapping should have a spherical field of view to capture the entire environment around a viewer). See Fig.4-7 and col.4 lines 5-20.

4. In regard to claim 3, Hashimoto teaches a camera system for environment capture further comprising means for generating an environment map by stitching together the combined environment data with primary environment data captured by the primary camera (camera systems for environment mapping should have a spherical field of view to capture the entire environment around a viewer). See Fig.4-7 and col.4 lines 5-20.

5. In regard to claim 4, Hashimoto teaches a camera system for environment capture wherein the first lens defines a first nodal point, wherein the second lens defines a second nodal point, wherein the third lens defines a third nodal point, and wherein the primary camera, second camera, and third camera are stacked such that the first, second, and third nodal points are aligned along a vertical line (According to Fig.3 of the drawing, examiner realizes that every camera lens has nodal point; and camera system of Fig.7 of Hashimoto shows cameras (410, 530, 430) having nodal points aligning along a vertical line).

6. In regard to claim 5, Hashimoto teaches a camera system for environment capture wherein each of the primary camera, the second camera, and the third camera is configured to capture a predefined region of an environment surrounding the camera system, wherein the primary region captured by the primary camera is defined by a first radial boundary and a second radial boundary, wherein a second predefined region captured by a second camera is defined by a third radial boundary and a fourth radial boundary, and wherein the second radial boundary partially overlaps the third radial boundary (according to Fig.5 of drawing, every camera's lens

has two radial boundaries, Fig. 7 of Hashimoto shows two radial boundaries of two cameras intersecting each other).

7. In regard to claim 6, Hashimoto teaches a camera system for environment capture wherein the first radial boundary and the second radial boundary define an angle up to 185 degrees. See Fig.7.

8. In regard to claim 7, Hashimoto teaches a camera system for environment capture wherein angle is 92 degrees. See Fig.7.

9. In regard to claim 8, Hashimoto teaches a camera system for environment capture wherein the support structure comprises: a base; a beam extending upward from the base and having a first edge and a second edge, the first edge being perpendicular to the second edge, wherein the primary camera is fastened to the first edge of the beam, and wherein the second camera and the third camera are connected to the second edge of the beam. See Fig.7.

10. In regard to claim 9, Hashimoto teaches a camera system for environment capture wherein the support structure comprises: a base; a first beam extending upward from the base and being connected to a first side edge of the second camera and a first side edge of the third camera; and a second beam connected to a second side edge of the second camera and to a first side edge of a third camera, wherein the primary camera is connected to the second beam. See Fig.7.

11. In regard to claim 10, Hashimoto teaches a camera system for environment capture further comprising: a fourth camera having a fourth lens defining a fourth optical axis extending in a third direction; and a fifth camera having at fifth lens defining a fifth optical axis extending

in the third direction such that the fifth optical axis is parallel to the fourth optical axis. See Fig.7.

12. In regard to claim 11, Hashimoto teaches a camera system for environment capture further comprising: a sixth camera having a sixth lens defining a sixth optical axis extending in a fourth direction; and a seventh camera having a seventh lens defining a seventh optical axis extending in the fourth direction such that the seventh optical axis is parallel to the sixth optical axis. See Fig.7.

13. In regard to claim 12, Hashimoto teaches a camera system for environment capture comprising: a first camera (element 440) defining a first optical axis extending in a first direction; a second camera (element 410) aligned with the first camera, the second camera defining a second optical axis extending in the first direction such that the first optical axis is parallel to the second optical axis; a third camera (element 430) defining a third optical axis extending in a second; and a fourth camera (element 510) defining a fourth optical axis extending in the second direction such that the third optical axis is parallel to the fourth optical axis. See Fig.7, col.4 lines 63-65, col.7 lines 42-57.

14. In regard to claim 13, Hashimoto teaches a camera system for environment capture further comprising means for emulating a first virtual camera defining a first virtual optical axis extending in the first direction by combining first environment data captured by the first camera with second environment data captured by the second camera to form a first combined environment data, and for emulating a second virtual camera defining a second virtual optical axis extending in the second direction by combining third environment data captured by the third camera with fourth environment data captured by the fourth camera to form a second combined

environment data, wherein the first virtual optical axis intersects the second virtual optical axis at a virtual nodal point (camera systems for environment mapping should have a spherical field of view to capture the entire environment around a viewer). See Fig.4-7 and col.4 lines 5-20.

15. In regard to claim 14, Hashimoto teaches a camera system for environment capture further comprising means for generating an environment map by stitching together the first combined environment data with the second combined environment data (camera systems for environment mapping should have a spherical field of view to capture the entire environment around a viewer). See Fig.4-7 and col.4 lines 5-20.

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tam D. Tran** whose telephone number is **571-272-7793**. The examiner can normally be reached on MON-FRI from 8:30 – 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Kee Tung** can be reached on **571-272-7794**. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kee M. Tung
Primary Examiner



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Art Unit: 2676

Tam Tran

Examiner

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